

Continued low prices for molasses will seriously affect the net earnings of the sugar industry. In 1951, according to producer representatives, the domestic cane sugar industries received in the neighborhood of 10 percent of their income from molasses. Molasses prices were favorable as the result of high alcohol prices. Molasses prices have since declined to a level at which producing mills receive little more than enough to cover storage and handling costs while growers receive virtually no returns from molasses. Therefore, there exists an urgent need to expand other uses for molasses to absorb available molasses supplies at prices higher than the fermentation alcohol market will be able to pay.

POSSIBLE SOLUTIONS

The opinion of most of the group was that feed usage offers the best potential for increasing total molasses utilization. This is because molasses is high in carbohydrate value and has other valuable properties of palatableness, binding, and dust settling. The absorption of all molasses supplies by the feed trade would not overburden the carbohydrate feed market. The potential of the feed market for molasses was characterized by representatives present as follows:

(1) If all the cattle in Texas were to consume four pounds or about one-third of a gallon of molasses daily, annual consumption of molasses would amount to more than 800 million gallons, almost twice total molasses supplies available to the United States.

(2) In the northeastern part of the United States there is a sufficient number of dairy cattle which, if fed an even lesser amount daily than that quantity mentioned above, would consume all the molasses supplies available in the United States.

In addition to solving the molasses surplus problem, expansion of feed usage would also have desirable price effects that would benefit producers, distributors, and users. The price of molasses, which historically has risen and fallen with the alcohol market, has seldom reflected its feeding value. These price changes have often been sudden and severe - both on the up side and the down side. Carbohydrate feed prices have changed too, but, as a rule, much less sharply. It appears likely, therefore, that if molasses prices were dependent upon the prices of other carbohydrate feeds a more stable molasses price could be expected to prevail.

Producer returns would be more even from year to year, distributors would be less likely to take serious inventory losses, and dealers in mixed feeds could better plan their formulas and better judge the advisability of investing in mixing equipment.

Although, as previously stated, there was general agreement that the expansion of feed molasses usage was desirable, there was some question raised by producer representatives from Louisiana as to whether or not the molasses surplus problem would be solved by the absorption by the feed trade of the quantities of molasses now being used for alcohol. There was concern that several years would elapse before an increase in the use of feed molasses to the necessary extent could be reasonably expected. It was feared that in the meantime, molasses prices would continue to be related to alcohol prices and producers would continue to receive only small returns from molasses. There was also concern over the possibility that greater amounts of imports would be attracted to this country as feed utilization expanded and molasses prices began to reflect feed demand. It was proposed that the surplus problem could be immediately solved, without a waiting period for feed molasses consumption to expand, by earmarking excess supplies of molasses over feed and other higher priced usages and making only this excess available for the production of alcohol. In other words, there should be a segregation of the markets for molasses so that the lower priced usage (alcohol) would not exert any price influence on molasses going into higher priced usages. This plan would entail the institution of a two-price system for molasses. Presumably the lower price would be for molasses entering into alcohol usage, and the higher price for molasses going into feed usage.

Some objection to this system was expressed by a feed user representative. Doubt was registered as to whether such a plan was workable since feed users would object to molasses prices higher than the over-all supply-demand situation warrants. The economic feasibility was questioned of such a pricing system in selling to the feed trade, a permanent and expanding consumer, at a higher price than to the alcohol trade, a temporary and decreasing consumer.

OBSTACLES TO EXPANDED FEED UTILIZATION

Although the feed market offers good possibilities for absorbing much larger molasses supplies, the discussions revealed the existence of obstacles to increased utilization as feed.

One of the major obstacles is the lack of or inadequate molasses distribution systems in many areas. This was one of the primary factors which made it impractical to use molasses in large quantities in the drought-affected areas of the South this past summer and fall. Inadequate distribution systems also contribute materially to the cost of marketing molasses. As an example, it was brought out that recently a molasses user located within 50 miles of a port city having terminal facilities for molasses had to pay 52 cents per gallon to obtain molasses in drums. The quoted f.o.b. terminal tankcar price at this port was 11 cents per gallon. Had this been Puerto Rican molasses, the net price to the producing mill in that Island would have been 5 cents or less. Puerto Rican sugarcane growers receive no portion of the molasses returns unless the mill price exceeds 5 cents. In other words, of the 52 cents paid by the user, nothing went to the sugarcane grower, about 5 cents went to the cane processing mill and 47 cents went to cover costs of distribution. This may not be a typical example of the cost of barreled molasses, however it does illustrate the effect of inadequate distribution systems on marketing costs.

Discussion by a distributor representative was directed at the existence of poor merchandising and marketing practices. Much of the difficulty in the molasses market in the past year was blamed on such practices in both offshore and domestic sales. Inadequate producer storage capacity with resultant forced marketings and granting of special price privileges to large buyers by both producers and distributors were given as conditions which lead to an unstable market and lack of confidence on the part of many users.

Molasses handling difficulties are other obstacles to increased usage both in mixed feeds and as a direct farm feed. Liquid molasses presents special handling inconveniences to many farmers to whom molasses is available only in drums. The handling of heavy drums and the sticky nature of molasses discourage maximum usage. Cold weather's affect on the flow of molasses adds to handling difficulties of feed mixers and farmers. Several users made comments on other difficulties that have arisen in the use of molasses in mixed feeds. Feeds containing molasses have shown a tendency to dry out. The drought conditions existing this year and possibly storage conditions may have contributed to this situation. An additional factor may have been use of molasses of inferior quality. In addition to drying out of molasses feed mixes, a problem of "heating" in feeds has been attributed to molasses. This problem may be overcome by using molasses with a high Brix (total solids) content.

It was also brought out that many potential users are not familiar with the feeding value of molasses. Many others do not know how to use molasses, either as a carbohydrate feed, a preservative in

silage, or in the salvage of unpalatable roughages. It was pointed out that in addition to efficient distribution systems and stability in supplies and price, education on the value and use of molasses is necessary to increased utilization.

POSSIBLE MEANS OF EXPANDING FEED USAGE

The discussions indicated several means of expanding utilization of molasses as feed. Certain individual efforts already underway were related by representatives at the meeting and/or in correspondence to the Department. A summary of these efforts as well as needed research and service activities as brought out in the discussions are included in this section.

Improved Distribution and Handling Facilities and Methods

In recent years, the practice of distributing molasses by tank-truck has increased. Tank-truck delivery systems now serve farmers and feed manufacturers on the West Coast, in certain sections of the Northeast and Southwest, and in the Gulf area where citrus molasses as well as blackstrap are distributed in this manner. This method materially reduces distribution costs and also alleviates handling difficulties to some extent. Many farmers own tanks equipped with automatic feed controls. This system enables the filling of such tanks directly from the delivery truck, thereby eliminating some handling. To feed mixers, particularly small ones, the existence of tank-truck systems affords the delivery of molasses in small quantities as needed thereby reducing inventory risks.

The delivery system in some areas of the Northeast has certain unique characteristics. Tank-truck delivery of molasses is made to local retail outlets rather than direct to farmers. The molasses is mixed with protein ingredients and the farmers' home-grown grain by these local retail units and the farmer takes back a mixed dairy feed to the farm. This particular method of distribution has been in existence for about two years and has grown rapidly. The discussion revealed that tank-truck delivery in the other areas mentioned also has proved to be a very satisfactory method. In the areas where this system is used it has contributed materially to increased feed utilization of molasses. There are limitations, however, to the area which can be economically served by tank-truck delivery systems. In areas distant from producing points or terminal markets, distribution stations must be established at which molasses can be received in carload lots before redistribution by truck. There are also limitations of the size of load that can be delivered economically by tank-trucks. Estimates of the radius from a terminal that can be supplied economically by tank-truck range

from 50 to 250 miles. It is generally felt that tank-truck delivery of less than 5 tons (about 850 gallons) is not economical although some deliveries in smaller amounts are being made.

It is possible that the institution of such systems, as discussed above, in other areas would be practicable and serve to promote increased feed usage. It was agreed that further research was needed on possible ways in which to improve distribution facilities for molasses.

Improved Merchandising and Sales Practices

As previously mentioned, attention in the course of the discussion was directed at existing merchandising and sales practices on the part of both producers and distributors. This was also the subject of an open letter addressed to the molasses trade by a molasses distributor in connection with the meeting. It was stated by a distributor representative that the industry cannot plan on continued or increased usage until merchandising and sales practices are such that prices and conditions of purchases are reasonably satisfactory to all users regardless of size, and until some degree of stability is achieved in the molasses market to reduce the risk of serious inventory losses.

It has been proposed that the establishment of a trade organization composed of molasses producers, distributors and users is essential to the achievement of needed changes in marketing practices. The opinion was expressed that such an organization could work toward the elimination of wide differences between prices to different buyers at a particular time, that it might increase the availability of supplies at more stable prices, thereby increasing confidence in marketing practices as well as in the product. In addition the trade organization could work toward improvements in the marketing services and in sales promotion. The organization could also provide a service in actively considering marketing problems that arise and making recommendations as to their solution. Such a service would be available for all segments of the trade.

Cuban representatives were present at the meeting and explained the actions that had to be taken in disposing of Cuba's record molasses supplies (production and carryover) in 1952 of about 430 million gallons. Cuba's future plans for changes in merchandising and pricing practices also were discussed. Until recently Cuba had sold only 90 million gallons of her large supply which is about equal to her domestic consumption. The Cuban representative announced at the meeting that additional sales of 84 million gallons had just been made, leaving an existing surplus of 166 million gallons. In addition it was announced by the Cuban representative that there

is the possibility of selling an additional 100 million gallons in the near future. 1/ The base price established for these transactions is 7 cents per gallon, f.o.b. Cuba. If the molasses is used in the production of alcohol and shipped from Cuba before January 31, 1953, a drawback of 2.5 cents per gallon will be allowed. If the molasses is used for alcohol and shipped after January 31 but not later than April 30, 1953 a drawback of 2.25 cents per gallon will be allowed. Drawbacks will be allowed only after certification by the Bureau of Internal Revenue that the molasses purchased under these terms was actually used in alcohol production.

This in effect amounts to a two-price system with the price for feed molasses at 7 cents per gallon and the price for molasses used in alcohol production at 4.5 or 4.75 cents depending upon the period of removal from Cuba. This represents an attempt to dispose of Cuba's supply in a manner which will not depress feed prices further. It was explained that these steps arose out of the necessity to move at least 175 million gallons before May 1, 1953 to make room for new crop molasses. The drawback allowances were granted as an incentive for early movement of molasses from Cuba. It was stated that buyers will not be allowed to take part of any purchase made under these conditions from Cuban molasses already stored in the United States before February 1, 1953 and only 10 percent of a purchase after February 1. The explanation was made that it is impossible to ditch molasses inland in Cuba because of health and sanitation reasons and the ditching of molasses at sea would be costly and impractical. Therefore Cuba was forced to establish these conditions of sale in order to dispose of her supplies.

The opinion was expressed that these steps will reduce Cuba's supply position to manageable proportions and that total 1953 supplies will not be such as to create a disposal problem. Cuba has announced the intention to restrict sugar production to 5 million tons in 1953. This should result in total molasses production of about 270 million gallons, about 130 million gallons less than 1952 production. Assurances were made that no sales under the terms outlined will be made after April 30. It was stated that Cuba felt this two-price system was not desirable and that she would return to a one price system after April 30. It was also stated that Cuba was willing to make small sales as well as large sales on the same basis and a set of rules to this

1/ It has been reported that as of November 20, Cuba had sold all but 10-20 million gallons of her 1952 supplies. Terms and conditions under which latest sales were made were virtually the same as those outlined by the Cuban representative at the meeting.

effect has been laid down by the Cuban Sugar Stabilization Institute. Special discounts allowed on large purchases as an incentive for movement of molasses were deemed as measures forced by the serious disposal problem this year.

Development of More Usable Forms of Molasses for Particular Needs

There was a feeling on the part of some representatives that while improved distribution systems would be helpful in expanding usage by large farmers who can buy in bulk quantities, there would still remain the problem of expanding molasses usage on small farms. The opinion was expressed that a large part of the livestock population, i.e., that on small farms, cannot be reached in substantial quantities by any liquid molasses distribution system.

The discussions indicated that a possible solution to this problem lies in dried molasses or dried high molasses content feeds which can be bagged and sold in small amounts through local feed stores. Experimental development of such feeds has been going on in Puerto Rico and Hawaii, and several concerns are marketing small quantities of dried high molasses content feeds using such products as bagasse pith and corn oil meal as carriers.

Certain problems exist in connection with the marketing of such feeds. These include packaging and storage problems occasioned by their tendency to cake because of the hygroscopicity of dried molasses, and their higher costs to users in comparison to liquid molasses. Possibilities of overcoming these problems and the market potential of these products in expanding feed usage should be the subjects of further research. A representative of the owner of a patented process for manufacture of "pure dry molasses" was present and expressed an opinion that this product possessed good potentials. He indicated that this product can be manufactured and sold for about \$62.00 per ton at current molasses prices.

The discussions revealed that ammoniation of molasses offers possibilities for increasing feed utilization. One company has this process in pilot plant stage now and expects to be in production soon. It was reported that initial tests indicate that ammoniated molasses flows better than molasses, and because of its basic PH value, reduces the possibility of fermentation in hot weather. It was further stated that in the ammoniation process, it is possible to increase the total protein content up to 15 percent.

Promotional and Service Activities

In addition to adequate and efficient distribution systems and sound merchandising and sales practices, it is necessary that customers be attracted to the value of molasses and be acquainted with ways to use it advantageously. This would require both advertising and educational work.

Several companies have reported that they do considerable advertising and others have indicated they perform services for users in the form of advice on how to use molasses in mixed feeds as well as in direct feeding. It was brought out those that do advertising have found feed journals to be the most effective medium in reaching users. Others have found personal contacts to be an effective means of expanding utilization. This is particularly true in market developments in so called new areas. The importance of personally contacting users and advising on equipment necessary and proper usage was stressed.

Generally speaking, however, many potential users have not been reached by existing promotional and educational efforts. An interesting point was raised as to which segment of the industry should bear the expense of increased promotional efforts, particularly advertising. It was pointed out by a distributor representative that large scale advertising is expensive and often prohibitive for one company to carry out. It was stated that producers had the greater interest in expanded utilization and possibly higher prices to which increased advertising might contribute.

The opinion was also expressed that the Department of Agriculture could possibly make a valuable contribution in additional educational work through the Extension Service. Educational work by Extension personnel on the use of molasses is already underway in several states where molasses is readily available. The Extension Service and other information facilities of the Department plan to call to the attention of marketing and livestock specialists throughout the country the need for expansion of utilization of molasses as a feed. These agricultural workers can provide a valuable service by work on improvements in local distribution systems and education on the use of molasses.

The Sugar Branch publishes a weekly molasses market news report showing prices and general supply-demand conditions at major market points for blackstrap, beet, citrus and hydrol molasses. This report is available to users of molasses as well as producers and distributors. In addition to this service a report will be issued monthly giving current information on supply levels and rates of disposition. The purpose of this reporting service is to keep all segments of the industry advised of current market

conditions and to assist in the making of buying and selling decisions. The Sugar Branch also hopes to provide a further service to users by summarizing information available on the feed value of molasses, various uses, methods and rates of usage for specific purposes, equipment suitable for farm handling, and costs of such equipment.

Continuation and Expansion of Research

The need for research on certain problems such as possibilities for improvement in distribution facilities and development of dried molasses products has already been mentioned. Note also has been made of research being conducted by individual companies on such subjects as the ammoniation of molasses. In addition a representative discussed the results and experiences in connection with the range feeding of molasses in open troughs to cattle in Florida. Molasses was fed in this way as a supplement to grass and it was found that cattle limit themselves to reasonable amounts. It was found that a two-three weeks supply of molasses of high Brix content could be put out at one time without spoilage. Other research has been conducted in the past by public and private agencies, the results of which have shown the value of molasses as a carbohydrate feed, as a preservative in silage, and proper usage rates.

Current research is also underway which may show that molasses possesses additional value as a feedstuff, perhaps in intrinsic properties of trace elements present that aid in stimulating greater digestion of rations by ruminants.

The opinion was general that past research has been valuable and that research on the value and use of molasses should be continued. It was stressed that to be of maximum value the results of research had to be gotten to users in a form that would be understandable and usable. It is the opinion of some that users would be more likely to apply results of feeding trials and similar feeding work if such research were conducted at local levels, such as by state experiment stations, under conditions and in light of needs existing in local areas.

There are other fields of research, national in scope, that offer possibilities of results that may serve to expand molasses feed usage. One area of particular importance is the determination of means by which a greater percentage of molasses can be incorporated into mixed feeds for livestock. It is generally believed that increased usage in mixed feeds offers good possibilities for greater total feed utilization. The opinion was expressed that the use of molasses in poultry and swine feeds has not been fully explored and that such usage may offer good possibilities for increased molasses usage.

Difficulties in drying out and heating of mixed feeds have been previously mentioned. Such difficulties may be related to some extent to the composition of molasses used, that is total sugars content, total solids (Brix) and trace elements; and variations in the composition of different lots of molasses. It is believed that research should be directed at determining what would constitute suitable and practical standards for molasses for feed purposes. The development and use of such standards would provide assurance to users that purchases according to standards would be uniform in quality. In addition standards may provide a more satisfactory basis for pricing in contractual arrangements between producers and distributors.

CONCLUSION

The attendance at and participation in the meeting by many producers, distributors and users are indicative of the concern over the molasses situation. Although the considerations mainly were preliminary in nature, the points brought out in discussions of the problem and possible solutions provide definite guiding points for further consideration and possible action programs. The burden of surplus supplies and low prices rests most heavily on the producing segment of the industry. Consequently it will be in the interests of producers to further analyze the molasses problem and take the lead in remedial actions.

It is the position of the Department of Agriculture that many of the problems in expanding feed utilization of molasses can be met best by the industry's own efforts. Naturally the research and service facilities of the Department will be available to aid in the solution of the molasses problem as they have been made available to help solve other agricultural problems.

List of Producers, Distributors, and Users of
Inedible Molasses and Government Representatives
in Attendance at November 14 meeting 1/

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1/ A few in attendance did not turn in attendance slips, therefore,
above listing is not quite complete.

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